

CHAMBERS' EDINBURGH JOURNAL

CONDUCTED BY WILLIAM AND ROBERT CHAMBERS, EDITORS OF "CHAMBERS'S INFORMATION FOR THE PEOPLE,"
"CHAMBERS'S EDUCATIONAL COURSE," &c.

PRINTED BY W. AND R. CHAMBERS, 19, WATERLOO PLACE, EDINBURGH.

NUMBER 385.

SATURDAY, JUNE 15, 1839.

PRICE THREE HALFPENCE.

STEAM-BOAT CHARACTERS.

A TRIP from Edinburgh to London on board one of the many splendid steamers which ply almost daily between these cities, is, in fine weather, a very delightful affair. The pleasures of the sea are enjoyed without any thing like actual fear of danger; for so well are these boats manned and managed, that even when the ocean roars and tosses itself about in a pretty considerable fury, you may keep yourself quite at ease on the score of drowning. Then, as you have something like forty-eight hours to spend on board, a period which includes two breakfasts and dinners, not to speak of three lunches and as many teas, there is time to look about one, and scrape up a sort of chatting acquaintance with one's fellow-voyagers. From the moment you get yourself on board, to the moment you step on shore, all is a mere round of idling, eating, drinking, talking, walking, and sleeping. Exhilarated with the fresh air of the North Sea, and watching the progress of the vessel along the coast, you get in a few hours a first-rate appetite, and lay waste every thing that the steward thinks fit to exhibit for your solacement.

In these excursions, to be sure, there are occasionally a few roughs—all is not smooth sailing. The deck sometimes will persist in sea-sawing off the horizontal—the timbers of the berths below will go on creak-creaking, as if the vessel were sulkily muttering threats of parting asunder; cries of woe-begone wights for the steward to fetch—no matter what, issue from the sarcophagi, flatteringly called beds. All this, and much more to the same purpose, will now and then take place. What then?—it is only for a day or so, and you have a good laugh at it afterwards. If one chances to be in the humour, he may also pick up a good deal of character, in a small way, in these sea-trips. I say, in a small way, for there is no opportunity for great things. In a few little odds and ends of sayings and doings, you can observe what sort of stuff a person is made of. One takes every thing easily and makes no fuss, while another is restless and fidgetty, full of important trifling, and is a bit of a bore. Among this latter class of torments down in the sleeping-berths, I reckon the bald-pated, red-gilled, middle-aged gentleman, in the dressing-gown and slippers, who keeps washing at himself, and fiddle-faddling about the basin-stand, for pretty nearly a couple of hours. This basin-monopolising monster, as we may call him, is an awful infliction upon the inmates of the sleeping-room. Up he gets before any one else, and, securing a position at the only dressing-table in the apartment, there he washes and splatters away till your patience is quite exhausted. Suddenly the noise ceases; you think he has done; looking out of your berth, however, you see he is only resting one side of his head in the basin; then he rests the other; then he submerges his big round red face; then commences the splashing once more; and, at last, after a very great splash of water has been tossed round the back of his neck, he finishes, and takes to the towel. The towel he is as severe upon as he has been upon the water. He takes five-and-twenty minutes to dry himself. And even after the water and the towel have been dismissed, he has to go through a variety of manoeuvres with sundry little bottles, brushes, and other articles, all ingeniously packed into each other in a portable dressing-case, which he has spread out on the top of a trunk; then he has to begin dressing himself in earnest in his upper apparel, and, just as you hear the clatter of cups up stairs for breakfast, he vacates the premises, and leaves the coast clear for others. Such is this pest of steam-boats, the basin-monopolising monster.

You may hold yourself fortunate if you escape an equally formidable bore in the character of the snoring monster. This is a puffy fat person, who devours beef-steaks at breakfast, calls for pints of stout at dinner, eats a hearty supper, and drinks a tumbler of punch before going to bed. He has obviously the stomach of a cassowary, and he chucklingly tells every one about him that he is never sick. Following him to the berths below, you find he does not undress like other mortals; but selecting a bed in the free and easy way that a backwood squatter selects a location, he tumbles in, boots and all, and in three minutes is off in a snore, which the noise of the paddles has not the power either to quell or disturb. Varying the tone from a high and sharp to a low and guttural key, there does the monster go through his gamut of horror, laying waste the slumbers of his neighbours, and only ceasing when he again squelches out from his den to seek the regions above. Reader, you know the snoring monster too well. Let us proceed to some one else.

Among the concourse of characters, gentle and simple, who figure in the saloon, you cannot fail particularly to observe one whom the functionaries of the vessel and various passengers look up to as the greatest man in the ship. This greatest-man-in-the-ship monster is generally a lord; perhaps he is only a judge, perhaps only a general; no matter, he is somebody of rank, a personage whom many are anxious to sit near, and help to all the good things within reach. Gruff as the captain may be to every one else, he is politeness personified to the greatest-man-in-the-ship monster—readily tells him where we are, how far we shall be next morning, and when, if no fog comes on, we shall arrive at our destined port. To those, therefore, who wish to pick up crumbs of information regarding the progress of the voyage, it is of material importance to be locally near the greatest-man-in-the-ship monster, whose conversation, moreover, though sometimes very sparingly bestowed, must, as a matter of course, be of a singularly illuminative kind. It is quite delightful, after the slightest possible remark that may have fallen from his lordship, to observe how greatly edified and impressed the other passengers appear.

In respect of talk, the greatest-man-in-the-ship monster usually differs very much from another class of passengers, now to be adverted to. It is the chief peculiarity of these gentlemen to talk very much, and in a loudish voice, as if they were desirous of letting all their fellow-voyagers know who they are, and where they have come from. To be exact, they consist of some half dozen gentlemen who have either lately returned from India, or who were in India at some former period of their lives. I speak of a down voyage, not an up. In going up, the vessel carries young cadets and assistant-surgeons recently appointed, who are on their way to Chatham to be passed and forwarded. It is in the down voyage that you fall in with the old Indians. They always, by a kind of sympathy, congregate in a coterie at the top of one of the tables, whence comes an endless flow of loudish chatty conversation on matters connected with the East, and a few things besides.

"Were you on the Madras station, Colonel?"

"No, I was in Bengal. I went in the year 1809, and have just been thirty years out."

"Indeed, that's a long time; I returned in 1827. I was only out seven years, but I was up the country. I did not like the lower provinces; they are too hot. How did you come home?"

"We came, my friend and I here, in the Masulpatam—a splendid vessel that, a thousand tons, India built, first-rate provisions on board. We had a garden

of water-cresses on the poop, and fresh milk daily from a couple of cows."

"That was capital. Did you touch at the Cape?"

"Yes, we were there a week. Fine country, but an awful state of morals. A brutal set the Dutch boors; they are constantly at war with the natives. A short time before we arrived, there had been a skirmish within the Caffre territory. Two thousand of the poor devils were killed, and we lost only one sergeant, a corporal, and fourteen rank and file. Captain Shaw of the 6th was wounded."

"Oh, speaking of that, did you know Major Shaw of the Royals? He was on the Bengal station, I think."

"I knew him very well. He came out in twenty-six, and was married at St Helena, by the way, to a daughter of Captain Davidson—a fine-looking girl, but somewhat passé."

"That was an excellent joke; was the major not laughed at a good deal at the mess?"

"Oh, not at all; there were others in the same scrape. It is quite a common thing to be married at St Helena, or, at all events, at the Cape, on the way out. The matches, you know, are made up on board. Besides, she was an old flame. The major had flirted with her a year or two before at Cheltenham."

"Ah, that makes a difference. You have been at Cheltenham, I suppose, since your return; excellent society there, particularly in summer."

"No, I prefer London, and intend going back in a few weeks. So many club-houses now, that one can never be the least at a loss for acquaintances. I staid a month at the United Service—the old, not the new—a first-rate house that. I met an old friend there, General Montgomery; we were school-fellows in Scotland more than forty years ago. He had returned only a short time since from the Ionian Islands, where he had a good appointment."

"London is very dull at present—nothing doing."

"Why, you astonish me; I was driven utterly stupid with the noise and bustle on the streets, and there seems to be plenty of amusements of all kinds; all the theatres are open, I believe."

"Oh, as for that, I dare say London is always much the same. I meant there were no drawing-rooms or levees worth speaking of. But that is rather a ticklish subject just now."

"Perhaps. You know I am as yet somewhat raw in court matters. What a great convenience to strangers is that Parcels' Delivery Company they have got up in London."

"I did not hear of it."

"It is new, I am told; you can get as many parcels delivered, as you like in any part of the town for three-pence a-piece. I sent, I dare say, a cart-load of odds and ends one day. Vast convenience, I assure you—as good as the twopenny post."

"Great bore bringing home presents. Of course you were loaded like an elephant. I suppose you brought home a native servant?"

"No, I hired an Englishman who had gone out as an emigrant to the Cape a few years ago. India is now pretty well supplied with persons of that description."

"Indeed, that was not the case when I was out. Nothing then but native servants to be had. They are very clever, but sometimes shockingly roguish. I remember one of our mess who had two teeth stolen out of his head while asleep by his servant. They, however, make capital barbers. It is almost worth a person's while to go to India for the luxury of shaving."

"I agree with you in that. After experiencing the delicate operations of the Bengalese barbers, I feel myself sadly at a loss in this country. I cannot tell how I am to endure the change of manners after such an absence."

"It was certainly a desperate long stretch for you, thirty years. Surely you had a break. Did you stand the climate well?"

"No, I had no break; as for the climate, I stood it not amiss. I was very careful. Fourteen years ago, I had a dreadful country fever when stationed at Pishawar, but I got through it pretty well. I thought of coming home for twelve months, but the Burmese affair broke out, and we were ordered off to a hill-station on the frontiers, where I got as stout as a buffalo."

"Excellent hunting at the hill-stations, I understand."

"Why, yes, for those who like it; but we were so much occupied that we had little time to think of any thing of the kind. The mountains and heaths—we were two thousand feet high—reminded me of Scotland; but the air is different. I often thought when lying knocked up in my tent, that is, before I got well, that if I could but feel a breeze blowing up the Firth of Forth, from the Bass rock, I should instantly recover."

"I rather think we are not far from the mouth of the Firth now, but it will be so dark soon that the Bass will be but barely visible. However, we shall be at Granton in good time."

"I thought we were to go into Leith."

"Oh no; this is one of the General Steam Navigation's boats, and they all go into Granton."

"Where's that? I don't remember it."

"It's a new pier built entirely at the expense of the Duke of Buccleuch, about two miles west from Leith, with a new road striking up to Edinburgh. It is a splendid undertaking, by far the grandest ever executed by a private individual in Scotland. I am told it is to cost at least a hundred and fifty thousand pounds—quite a public-spirited affair, like the Duke of Bridgewater's canals."

"Will it pay?"

"That's doubted, but much is expected by the duke from the ground-rents of a new town springing up on the spot. The pier, at any rate, is an immense convenience. It is all of stone, a quarter of a mile in length, and has deep water for the largest steamers at all times of the tide."

"Well, I am glad we are not to go on shore in small boats. I hate these things, when there is a crowd of people; they cause so many accidents."

"They do. Did you land from the Masulpatam at Portsmouth?"

"No, I was put ashore at Brighton. My brother, who is the only relation I have left, has a very pretty house there, and I wished to see him the first thing I did on landing in England."

"It would be a great surprise when you popped in upon him. I should have liked to have seen how he looked."

"It was evening when we arrived. I had my servant with me. It was a little darkish, as it is just now. My brother and his wife were both out, but I asked to see the children. I was shown up to the nursery, and there were half a dozen of them, all as happy as possible. They were being put to bed, and could not understand who I was, although I told them I was their uncle. They could not rightly comprehend the idea of an old white-haired fellow like me claiming relationship with them. But I knew in a moment who they were. Their likenesses renewed old recollections. The sight of them was too much for me. There, in a beautiful flaxen-haired child, was the face of my poor mother, as I remembered having seen her for the last time at parting for India. There, also, in a brisk little fellow, standing on the top of a chair, was the countenance of Walter, a dear brother who fell at Bergen-op-Zoom. I saw, likewise, as I thought, the resemblance of my sister, who died a few years after my mother in Scotland. I felt myself, as it were, carried to heaven, and placed in a company of little angels, representing the deceased relations that I had valued on earth. I declare I sat down and wept like a child."

With this unexpected bit of sentiment from the old Indian, we conclude our snatch of steam-boat conversation; for, lo! Granton-pier is at hand, and the

temporary bond which has kept a few strangers together during the voyage, is already dissolved, as every man has to scamper away to see after his luggage, and make the best arrangements he can for his further progress on shore.

SKETCHES IN NATURAL HISTORY.

CATTLE, TAME AND WILD.

THE great importance of our domestic cattle may well be presumed to assure us that the greater part of our readers will feel some interest in the natural history of the genus to which these animals belong. To this department of zoology we have also a special call, in our desire to present, in a popular form, a view of some recent inquiries into the history and nature of certain breeds of wild cattle which are still kept up in our country. Partly, therefore, as introductory to a sketch of these wild cattle, and partly on account of its own interest as a department of natural history, we venture on the present occasion to lay before the reader a brief general paper on CATTLE TAME AND WILD.

The genus *Bos*, in which these animals are included (a genus of the mammal order RUMINANTIA, or Cud-Chewing Animals, which embraces likewise all the various kinds of camels, stags, goats, and sheep), was supposed by Buffon to consist but of two species, the Bull and the Buffalo. So great, however, has been the progress of science since the days of that eminent naturalist, that the acknowledged species are now at least nine, namely, the *Bos Taurus* (Common Bull or Ox), the *Bos Grunniens* (the Yack of Central Asia), the *Bos Bubalus* (Buffalo), the *Bos Arnee* [the preceding are tame or tameable—what follow are wild], the *Bos Urus* (Aurochs), the *Bos Americanus* (American Bison), the *Bos Moschatus* (Musk Ox), and the *Bos Caffer* (Cape Ox).

1. The *Bos Taurus* comprehends not only our own domestic cattle, but most of those of continental Europe, of Asia, Africa, and America. It is a species, then, of a great number of varieties. Not only does it include the many different British breeds, as the Long-horned or Lancashire, the Middle-horned or Herefordshire, the Short-horned or Dutch stock, the No-horned or Galloway, the Devonshire, the Welsh, and the Highland breeds, the Suffolk Duns and the Little Alderney, but the corresponding breeds, as they may be called, of the favourite localities of all other countries—as those of France and Holland, where about thirty kinds have been enumerated, those of Spain, of Germany, and Italy; also the gigantic animal of the Romania and the Calmuck Tartars, and the diminutive Shetlander; the domestic cattle of Egypt and North Africa, spreading, in the opinion of Major Hamilton Smith, southward to Caffraria; those, too, whose skeletons have been buried for ages in the Egyptian catacombs, and those which were derived from and extend to India, including the *Zebu*, with its hump on its back, in its many varieties. Though this arrangement is not free from acknowledged difficulties, and though it is far from being well understood "what forms a species, and what a variety," yet naturalists, following Baron Cuvier, are nearly unanimous in grouping all those under one species, and in this arrangement they are supported by scientific agriculturists.* All these varieties very much agree in their anatomical structure, in their mental endowments, and dispositions; they freely consort together; and their produce, instead of being a hybrid or mongrel race, have qualities equal, if not superior, to their own.

The external appearances, and the dispositions of many of these domestic varieties, must be so familiar that it is unnecessary to dwell upon them. The *Zebu* is not unfrequently seen in this country. There are several varieties, which, however, differ only in size, the largest and rarest exceeding the ox in dimensions, whilst the smallest is not bigger than a hog or large dog. It is used in some parts of India for carrying burdens, instead of horses, and is far more swift and hardy than the cow, trotting off with as much speed as a horse, and pursuing long journeys. Herds even of these domestic breeds are sometimes found to be very frisky. We remember some years ago visiting the stock of an extensive breeder in the north of England, where there was a considerable number and variety of cattle, and among the others a *Zebu*. Some dogs accompanied us to the enclosures, which was no sooner observed by the cattle, than they were greatly excited, and instantly collected, and came galloping towards us. The dogs retreated among our feet for protection, and the cattle,

nothing daunted, continued their attack, wheeling frequently so wildly round us, always approaching, and with such bold and threatening bearing, that we were too happy to make a somewhat precipitate retreat. Such an occurrence as this is probably familiar to many of our readers, but as its parallel will ere long be introduced in connection with reputed wild breeds, we have thought it not amiss to notice it. The *Zebu* above alluded to associated readily with our common breeds, and crosses were obtained from it; but both it and its progeny were so active and restless, not to say wild, in their habits, that they were on this account found inconvenient, and the race was not perpetuated. Every one is aware of the wide difference which subsists between the mild disposition of the cow, and the occasional outrageous fury of the bull.

2. The second species of domestic ox occurs in Thibet and Central Asia, and is known under the name of *Yack*—the *Soora Goy* of Hindostan, the *Bos grunniens* of Linnaeus—that is, the *Grunting Ox*, or rather, according to Major H. Smith, it should be *groaning*, for its voice is very different from the grunting of a pig. We will not dwell upon those characters upon which naturalists conceive they have based satisfactorily its specific distinctions, and shall only mention that its brow is prominent and not flat, and that it has fourteen ribs, whilst the other has thirteen. It has a strong general resemblance to the former species. Its horns are round; its ears small; its forehead adorned with frizzly hair, with an elevation on its shoulders more than the regular hump of the *Zebu*; its limbs are short, and the tail ornamented, from root to tip, with long, tufted, and brilliant hair, one pile of which in the British Museum measures six feet in length. In its domestic state, the *Yack*, like the *Bos taurus*, is liable to numerous varieties of general size, of the magnitude of its horns, or their entire absence, of that of the hump, and as to its colours and markings. It is this species which produces the famous *horse-tails* (commonly so called) which are used as standards by the Turks and Persians. The *Chowries* or "fly-drivers" of the East, much employed in India, are also formed from the tail of the *Grunting Ox*. It is dyed red by the Chinese, and is worn as a head ornament. This animal has a downcast heavy look, is sullen and suspicious, and usually exhibits considerable impatience on the near approach of strangers. It is sure-footed, and thus an excellent beast of burden, but is not used in agriculture. The mountains of Bhotan and Thibet offer the principal retreat to the wild varieties. There, too, also, they are domesticated, and they spread thence over China and Central India. They also abound in the Altaic mountains, and supply milk, &c. to the Calmucks, Mongolians, and Tartars.

3. The third domestic ox, the *Tame Buffalo* (*Bos Bubalus*, Linn.), seems originally to have been a native of Eastern Asia and its archipelago. It is well known in China and Cochinchina; it is the principal beast of burden in Sumatra and Java, and is the common animal food. In Ceylon it is found both tame and wild. It abounds in Malabar, Hindostan, and Coromandel, also in Persia and the Crimea. It seems to have been introduced into Europe about the seventh century, and was unknown to the ancients, whilst it is now common in Egypt, Greece, and Italy. The Lombard historian Warnefried informs us that their appearance in the last named country excited the greatest surprise, whereas they now graze unheeded in numerous herds in the Pontine marshes. Their milk is excellent, their hide very strong, their flesh but slightly esteemed. The forehead of this animal is convex and bulging, and higher than broad. In its habits it is almost amphibious, and it is peculiarly fond of the long rank herbage which springs up in moist and undrained lands. Hence its love of the Pontine marshes, where, according to Scaliger, it will lie for hours, submerged almost to the muzzle; a habit which, according to Dr Quoy, it equally exhibits in the Isle of Timor, in the Southern Ocean. This animal, even when domesticated, is far from docile, and it is so vigorous and bold that it fears not the lion or tiger, or any other wild beast of the forest, and an Indian herdsman reclined on its back is not afraid to pass the night in the most dangerous jungle. Its courage is well illustrated by the following incident, related by Mr D. Johnson. Two carriers were driving a loaded string of these animals from Palamow to Chittrah. When within a few miles of the latter place, a tiger seized on the man in the rear, but not unnoticed by a herdsman who was watching the buffaloes grazing: he boldly ran up to the man's assistance, and cut the tiger very severely with his sword, upon which it dropped the carrier, and seized the herdsman. The buffaloes, witnessing this, immediately attacked the tiger, and rescued the herdsman; they tossed it about from one to another, and, to the best of my recollection, killed it. Both the wounded men were brought to me: the carrier recovered, but the poor herdsman died."

4. We now introduce to notice two kinds of animals, which by some are regarded as quite distinct species from the preceding, whilst by others they are esteemed as varieties only of the tame buffalo. This is the opinion of the late Baron Cuvier, and we shall follow in

* See Quarterly Journal of Agriculture, ix. 303.

* Griffith's Cuvier, iv. 303.

his wake. These are a buffalo designated the *Arnie*, or *Arnis* (*Bos Arnie* of Shaw). This animal, though not unknown to the older authors, was first particularly described by the celebrated Pallas, and brought under the notice of the British public by Dr Anderson in the "Bee," in the year 1792. There seem to be several varieties of this animal, which differ from each other, more especially in size; and one, from its dimensions, is called the *Gigantic* or *Taur-Elephant*; the other, and more common, agrees in size with the common buffalo. The horns are the most striking characteristic of these creatures, each of them frequently extending to the prodigious length of about six feet; they are crescent-shaped, and turned outwards and backwards. It is a native of China and India.

5. The second variety we notice is the domestic animal named *Gayal* in the eastern parts of Bengal, and which has been described by Mr Lambert* under the name of the *Bos frontalis*, and by Major H. Smith as the *Gavvus*. In size and form it is not very dissimilar from the English bull; it has a dull and heavy aspect, but in reality equals the buffalo in activity and strength. Its horns are short, slightly compressed, thick at the base, rising directly outward and upwards; there is no hump upon its back; the milk, though rich, is not abundant. It is this variety which is more especially venerated by the Hindoos.

WILD OXEN.—We now turn to the Wild Oxen, and the first we shall name is (6) the *Aurochs* (*Bos Urus*, Gmel.), the only ascertained and indisputable wild ox of Europe, extending also to Asia. Its German name *Aurochs*, sometimes spelt *Aurora*, is probably a corruption of *Urus*, a name originally applied to another species. After the rhinoceros, this is the largest and most massive of our quadrupeds. It stands high on its legs, often equalling six feet at the withers, and being between ten and twelve feet in length. Its forehead bulges and is convex, and is broader than high; its horns are black, and of middling dimensions. It has fourteen ribs, instead of thirteen, as in the domestic breeds, and its skin is much thicker than that of other oxen. Its coat or fur is composed of two kinds of hair, both soft and woolly, the one short and fawn-coloured, the other long and chestnut-coloured: the hair is longest in front about the neck and shoulders, where it is four times longer in the male than in the female; the head and tail are long. Certain portions of the hide, especially about the head, have a decidedly musky smell, and the name *Bison* is supposed to have been bestowed upon it in consequence of that odour—the German word *wisen* or *bisem* signifying musk. The tone of its voice is quite peculiar. These characters mark it as a distinct species, and prove to the conviction of competent judges that it could never have been the stock of our present domestic breeds, whilst its history shows it has never been subdued. It is a wild and independent animal, which has been hunted from the more favoured countries of Europe, and is now confined to the forests of Bialowiza in Poland, and to Lithuania, also to Moldavia and Walachia, and to the confines of the Caucasus. Gilbert had an opportunity of observing the manners of four young ones. They refused to suck a cow, but were at last induced to receive nourishment from a she-goat placed, for their convenience, on a table. As soon as satisfied, they sometimes tossed both nurse and table to the distance of six or eight feet. On the termination of the first year, the small manes of the cows made their appearance. Like all the rest of the breed that have ever been observed, they scornfully refused the society of the domestic cattle of either sex, driving all other cows from the pasture in which they were kept. In other respects they were docile and obedient, caressed their keeper, and came to him when they heard his voice. Dr Javoki stated to the meeting of naturalists at Hamburg, in the year 1830, that the wild oxen of Bialowiza live in herds, except a few of the older ones, which wander about singly. Though they have never been tamed, they are not so shy but that they may be approached within a moderate distance. Each herd keeps constantly to the same district of forest, near to some river or stream, so that each of the twelve foresters knows the herds which belong to his district. The whole number, at present, is estimated at somewhat above seven hundred. The cows rarely bring forth above one in three years; the calves suck nearly a twelvemonth; they continue to grow for six years, and live for forty.

7. The next wild animal to which we shall advert is the *American Bison* or Buffalo, as it is called (*Bos Americanus*, Gmel.), which, although in some respects resembling the Aurochs, is usually distinguished from it. Baron Cuvier compared their skulls, and remarked that the one might almost be taken for the other, there not being greater differences between the American Bison and the Aurochs, than there is between one Aurochs and another. In opposition, it is said that the American Bison has fifteen ribs, whilst the European has only fourteen. Regarded externally, there are marked differences, both in appearance and habits. According to Dr Richardson, in his Account of his Arctic Expedition, it is a fierce, treacherous-looking animal, with a disgusting and sinister look; the head and fore-quarter is large, and appearing more so from the long shaggy hair which covers the head and neck, almost obscuring its small bloodshot-looking eye. The horns are small, tapering, and acute, and set far apart. The height at the shoulder, where it has a hump, is upwards of six

feet, whilst its hinder part appears relatively small and feeble: the tail, which is covered with long hair only at the tip, does not extend below the knee, whilst that of the Aurochs is covered with long hair throughout, and sweeps the ground. The skin, from its fine wool, makes an excellent blanket, and sells in Canada for three or four pounds, and the wool has been manufactured in this country into fine cloth. Its usual colour is amber-brown; its flesh is much esteemed, and its hump is manufactured into the highly prized pemmican. It wanders constantly from place to place, either from being disturbed by the hunters, or in quest of food. Bisons are much attracted by the soft tender grass which springs up after a fire has spread over a prairie. In winter they scrape away the snow with their feet to reach the herbage. The bulls and cows live in separate herds for the greatest part of the year; but at all seasons, one or two bulls generally accompany a large herd of cows. During a certain season the males fight with great fury, and at that period it is very dangerous to approach them. The Bison is, in general, however, a shy animal, and takes to flight immediately on sighting an enemy, which it does from a great distance: they are less wary when assembled in numbers, and will often blindly follow their leaders, trampling down the hunters posted in their way. It is dangerous for the hunter to show himself after having wounded one, for it will pursue him; and although their gait may appear heavy and awkward, it will have no great difficulty in overtaking the fleetest runner. One of the Hudson-Bay Company's clerks was descending a river in a boat, and having one evening pitched his tent for the night, went out in the dusk to look for game. It had become very nearly dark when he fired upon a Bison bull which was galloping over a small eminence, and as he was hastening forward to see if his shot had taken effect, the wounded beast made a rush at him. He had the presence of mind to seize the animal by the long hair on the forehead, as it struck him on the side with its horns, and, being a remarkably tall and powerful man, a struggle ensued, which continued till he was disabled. He then fell, and, after receiving two or three blows, became senseless. Shortly afterwards he was found by his companions, lying bathed in blood, and the Bison was couched beside him, apparently waiting to renew the attack, had he shown any signs of life. The principal habitat of this animal at present is the immense country which gives rise to the sources of the Mississippi and Missouri; some generations back they used to be found in Carolina, Kentucky, and Pennsylvania, whence they have retreated. They abound in innumerable troops, sometimes exceeding 10,000. They are not found in the southern parts of the United States, nor in Mexico.

8. North America, in its higher latitudes, is famous for another kind of wild ox known under the name of *Musk Ox* (*Bos Moschatus*, Gmel., or *Ovibos Moschatus* of Dr Blainville). We owe our systematic knowledge of this animal to Pennant, and specimens have long existed in the Museums of Edinburgh and London. Captain Parry encountered it in his expedition, and has supplied satisfactory information respecting it. When full grown, it is about the size of the small Highland cattle. Its flesh is good, but smells strongly of musk. The horns are remarkably broad at their bases, and cover the brow, being in contact with each other; the nose is blunt, the muzzle covered with short hair, the head is large and broad, the legs rather short. The general colour of the coat is brown. On the neck, and between the shoulders, the hair is long and somewhat curled; on the back and flanks it is also long, but lies smooth, and is so long as to hang down beneath the middle of the legs; the tail is so short as to be concealed by the fur. The Musk Ox inhabits the barren lands of America lying to the north of the 60th degree of latitude, and ranges over the islands in the neighbouring ocean, without extending to Greenland and Spitzbergen. They frequent a country destitute of wood, rocky and barren, and feed on grass and lichens. They group in herds of thirty or forty, and are hunted by the Indians and fur-traders for the sake of their flesh and hides. Their sense of smell is excellent, whereby they anticipate and avoid danger in an astonishing way. The Musk Ox is of a more placid temper than some of its congeners, and an expert Esquimaux does not fear to encounter it, dexterously avoiding its rush, and inflicting wounds which are usually fatal.

9. The only other distinctly recognised species which remains to be noticed, is the *Cape Buffalo* (*Bos Caffer*, Sparman), an animal which has sometimes been confounded with No. 3, but which is a very different animal both in appearance and disposition, and which has never been domesticated or tamed to labour. It is nowhere to be found but in the southern parts of Africa, and is now rare even there, civilisation driving it into more distant and secure retreats. It is characterised by its great dark rough horns spreading horizontally over the summit of the head, latterly with the points turned upwards. These horns are extremely heavy, and measure from five to eight or nine feet, following their curve from tip to tip. The countenance of the animal exhibits a savage and malevolent expression. Its bulk is great, and this is equalled by its activity and strength: its withers are high; its tail resembles that of the common ox, but is shorter; its hide is unusually strong, and is on this account much valued. It is of so fierce and treacherous a disposition, that its attack is dangerous, without caution and ready means of escape. This is

well illustrated by the following history. A party of bores went out to hunt a herd of buffaloes which were grazing on a piece of marshy ground. As they could not conveniently get within shot without crossing a marsh, which did not afford a safe footing for their horses, they agreed to leave them in charge of the Hottentots, and to advance on foot, thinking, that if the buffaloes should turn upon them, it would be easy to retreat by escaping across the quagmire, which, though passable for man, would not support the weight of heavy quadrupeds. They advanced accordingly, and under covert of the bushes approached with such advantage, that the first volley brought down three of the fattest of the herd, and so severely wounded the great bull leader, that he dropt on his knees, bellowing furiously. Thinking him mortally wounded, the foremost of the hunters issued from the covert, and began reloading his musket, as he advanced to give a finishing shot; but no sooner did the infuriated animal see his foe in front of him, than he sprang up, and ran furiously upon him. The man, throwing down his gun, fled towards the quagmire; but the beast was so close upon him, that, despairing of escaping in that direction, and turning suddenly round a clump of copewood, he began to ascend a tree. The raging animal, however, was too quick for him, and, bounding forward with a frightful roar, he caught the unfortunate man with his terrible horns just as he had nearly escaped his reach; and tossed him into the air with such force, that the body fell dreadfully mangled into a cleft of the tree. The buffalo ran round the tree once or twice, apparently looking for the man, until, weakened with loss of blood, he again sank on his knees. The rest of the party, recovering from their confusion, then came up and dispatched him, though too late to save their comrade, whose body was hanging in the tree quite dead.

A TALE OF BOULOGNE.

"Do you know the difficulty of the task you propose to undertake, Otway?" said one of a party of young Englishmen, who were lounging and chatting together in a corner of the most fashionable public room of Boulogne.

"I do not see any particular difficulty in the matter," replied the individual addressed. "The women are women, I suppose, and have all the peculiarities of their sex, it is probable, in sufficient strength and prominence; wherefore, I am free to confess, as they say in a certain house over the water, that my experience does not lead me to anticipate any gigantic obstacles in the way of making the acquaintance of these two ladies, who seem to have excited so much curiosity among you good people, resident at this time, for various satisfactory reasons best known to each, at the town of Boulogne."

Having many of them very especial reasons for a temporary trip across the Channel, the young men laughed heartily at the innuendo conveyed in Otway's words, and the first speaker resumed the conversation. "You depend on that smooth face and those handsome limbs of yours, Otway; but you are a new-comer, otherwise you would know that these goodly gifts of yours will be utterly thrown away in this attempt, seeing that the two fair dames of the chateau never admit visitors to speech of them, and prevent such a thing happening accidentally, by never crossing the threshold of their rickety tenement. All your precious endowments, therefore, Master Otway, would be lost here—vain and profitless entirely. Give up thoughts of this wild-goose adventure in time, my boy, and do not make people laugh at you for your presumption in attempting what others have failed in."

"You but raise my curiosity more and more," said Otway; "and I will and shall see these mysterious demoiselles." "You will try, you mean, to see them," returned the other. "I will both try and succeed," was Otway's rejoinder. "For a wager of a dinner and wine to all here, you find yourself just where you are with these ladies, two months after this date! Will you risk as much upon it, Otway?" "Why, though an Englishman, you know that I am no bet-maker; yet I will take you at your offer, before these witnesses." "Nay, we shall have more witnesses," cried the other gaily; "all at present in this room must share socially in the good wine and viands, which your purse, I fervently hope and believe, is doomed to pay for." As he spoke thus, the bet-proposer turned round to those who, though in the apartment, had not been near enough to hear what had passed, and exclaimed in a loud voice, "Know all here present—" "Stop, stop," cried Otway; "remember, if I seek the acquaintance of these ladies, I shall do it respectfully; and although I have been foolish enough to bet upon the subject, I would not have the feelings of people of honour and repute, as they may be, hurt by such public—" "Pshaw!" said the other, interrupting in his turn; "these ladies never speak to mortal creature, and cannot be annoyed by any thing of this kind. Besides, the proceeds of all bets that involve things edible and potable, must be shared in common, according to the laws of our society." "Go on, then, in folly's name," cried Otway, who saw that he might fall under the stigma of stinginess by further opposition. Accordingly, in a few moments the whole club of idle loungers at Boulogne were made aware of the bet, and all connected with it.

Stephen Otway, a young man of independent fortune,

* Linnean Society Transactions, vii.

† Edin. Journ. of Nat. and Geogr. Science, ii.

had just completed a rambling tour on the continent, when the scene took place which has been described. On considering what had passed, he had too good a heart as well as head, to be quite pleased with the publicity which had been given to the matter, particularly as persons were implicated in it of whom he knew nothing. But his curiosity had been greatly raised by the account given to him of these persons. Two English ladies, he was told, had recently taken up their abode in an old and long unoccupied chateau, distant little more than a league and a half from Boulogne. At first, they had walked out a little; but when some of the loungers of Boulogne, having heard of their arrival, had presented themselves in the neighbourhood of the chateau, the ladies gave up their strolls, and never showed themselves without the walls of their dwelling. One of the females was elderly, the other young and exquisitely beautiful, and the attire and deportment of both evinced that they were no inferior personages. Such was the report, at least, of the intruders alluded to, who saw the parties once, but never enjoyed the same pleasure again. All inquiries about them in the neighbourhood, and many were made, proved fruitless, except in so far as the peasants of the little hamlet close by, who carried victuals regularly to the chateau, declared the old servant there to have once called her young lady "Miss Blake." Upon this hint the Boulognians made a new trial, and various invitations, duly accredited by lady-signatures, were carried to the English stranger, "Miss Blake," by whom they were all declined verbally, through the mouth of the old servant. The discomfited messengers, after some vain attempts to extract a word from the servant, were fain to return whence they came. These circumstances caused the ladies of the chateau to be the subject of much talk, and the object of much curiosity, part of which was no doubt owing to the idle situation and habits of those who entertained the feeling. What could cause a young and beautiful girl thus to immure herself, could not be comprehended, and guessing but made curiosity keener. Such was the state of mystery in which the matter remained, when Otway came to Boulogne. His romantic and adventurous spirit was at once captivated by the story, and this led to the engagement already described.

Though not quite pleased with that engagement, as has been said, Otway had still curiosity enough to resolve upon prosecuting the adventure, though he also made a determination to desist at once, if he saw any danger of hurting the feelings of the parties chiefly concerned. His first step was to take his drawing portfolio, and visit the chateau. It was an ancient, solitary mansion, dark and gloomy in appearance, and rendered more so at this time, because the autumn had just passed, and the leaves were already beginning to fall from the trees around. Stephen Otway gazed long from a little distance upon the old house and its precincts, about which there was not the slightest sign of life or motion. He went away home that day, calling himself a "fool," and doubting even whether it would not be better to stand the laugh at once, and pay the bet. But the second day saw him again near the chateau, and on this occasion he felt as if rewarded for his trouble. The sounds of a harp, played by a skilful and delicate hand, struck upon his ear, and charmed it so much, that he remained on the spot long after the melody had ceased. It would be tedious to detail the progress of his adventure day by day. Suffice it to say, that he ventured in time to leave his secret stand, and take up a new position, within sight from the chateau. The harp was silent at his approach, but he busied himself so intently to appearance with his drawing, or in reading, that at length his presence did not impede the music. Nay, as day after day went on, his presence seemed to excite less and less alarm, and he saw a female figure flit sometimes backwards and forwards, across the light blinds of the windows. A little ruse enabled him to know whether or not he was the object, meanwhile, of any attention to the inmates of the chateau. He absented himself one day from his usual place, and took up another station behind a tree. To his inexpressible delight, a female figure came several times to the window, and peeped timidly towards the spot where he should have been.

Restless time was running on all the while, and a heavy fall of snow broke up Otway's visitations, telling him, besides, that many weeks of his time had now passed. But, in truth, he had almost forgotten the bet, having removed from Boulogne to a retired country lodging for some time back, and having his imagination entirely occupied with the fair unknown of the chateau, whom he of course clothed with all manner of virtues, mental and personal. As soon as the snow had partially melted, he flew to the old spot. Near to this place, he saw a number of peasants engaged in clearing the snow from a pathway, leading between the chateau and a wood at some little distance. What could be the purport of this! An idea struck him. It might be to permit the ladies to walk; but then, if they did walk, they must either break their old rules, or walk by night. Otway now remembered having heard it said at Boulogne, among other hints, that the ladies did walk sometimes by night. He resolved to watch by the side of the path.

Night came, and Stephen still kept his place. But he was rewarded. From the point where he stood, he could see by the dim moonlight the front of the chateau, and two figures at length issued from the gate. They came towards the partially open spot near which Otway stood, and which he had chosen as the place where they would most probably make a halt. He had

not deceived himself. The ladies did stand still when they came thither, and one of them, after gazing for a time on the sky, uttered these words: "It is only since the snows have fallen, dear aunt, that this country reminds me of our own England—dear England! Would that I saw it again!" "And what should prevent you, Caroline, from going there to-morrow? Is this a life for one young, rich, and beautiful as you, formed to adorn the world, instead of pining in a solitude?" "You promised, dear aunt, not to speak thus again," replied the younger lady; "but my own foolish exclamation led you to it. Why should I wish for England again! Father, mother, brother, and sisters, all gone—all in the tomb! And my own dreadful irremediable mishap, but for which I might have tasted happiness like others, but for which I might have— But why think or speak of it! No one could love me; no, I must banish such ideas. Let me live alone with my griefs, and with the memory of those I have lost." "I meant not to vex you, dearest Caroline," said the aunt kindly; "but come—the snow is too chill for the feet. It has banished the young artist for some days from our park." "The snow chases away the birds," replied the niece, and Otway was sure she sighed as she spoke the words.

The two ladies turned, and walked away. But they had only gone a few yards, when the younger lady screamed loudly, and, as if instinctively, cried for "help." Stephen sprang from his hiding-place, and rushed to the spot. The aunt had gone a single step off the path while a cloud was on the moon, and had plunged through the snow and thin ice into a deep trench filled with water, by the way-side. Otway attempted to pull her out, but finding some difficulty, he at once stepped in himself, and raised her in his arms, and placed her on the path. As soon as he also was out, he took up the almost lifeless lady again, and saying to the niece, who hurriedly poured forth thanks, that "her friend must be immediately taken home," they set out hastily for the chateau. The old lady was instantly put to bed, and with the active exertions of the niece and the old servant, was restored to life and warmth. Otway, meanwhile, was left in a handsomely furnished apartment, where, after her aunt's recovery, Miss Blake, for such was indeed the lady's name, rejoined him. "Oh, Sir," cried she, while gratitude beamed on her lovely countenance, now for the first time rightly seen by Otway, "you have been our good angel. I owe to you a life as dear to me as my own. But, good heavens!" she continued, as she saw Stephen trembling in spite of himself with cold and wet, "I have been so ungrateful as to forget your condition." Otway would have said something, but the young lady did not wait to hear it, and in a few minutes the old servant came to conduct him to a bedroom, which her mistress insisted upon his immediately retiring to. Our hero, who felt himself really almost unable to stand, obeyed the order, and followed the servant.

A night's rest and good fire did not remove the effects of the adventure from Otway. He felt himself totally unable to rise. But what of that? The "sweetest voice in all the world," as he thought it, came to the door of his chamber, and made inquiries for him, mingled with many regrets that he could not be better accommodated. For two whole days Otway kept his room, and on the third evening he was enabled to rise, and was led by the attentive old servant to a parlour, where he was warmly welcomed by Miss Blake and her aunt. Here Stephen stammeringly and blushing attempted to say something about his love of "moonlight scenery," and also of "drawing," for the ladies had recognised him as the artist who daily visited the chateau. He moreover explained to them the circumstance of his having been on a tour, and having staid for a time at Boulogne on his way to England. Some how or other, Miss Blake blushed also during this explanation. But more easy conversation followed, and Miss Blake played and sang, to her visitor's great delight. He soon found, also, that she possessed a highly cultivated mind, in addition to grace of person and beauty of countenance.

For some days this intercourse continued, Otway's continued weakness forming the plea for his remaining at the chateau. Every time that he saw the young lady to whom he had been thus strangely introduced, he admired her more and more, and his wonder grew stronger as to the "misfortune" or mystery that hung around her—for there was mystery at the chateau. Otway never saw the ladies during the day. They took their meals alone, and it was only in the evening that they met him in the little parlour. Even there, something odd was to be observed; for only a single lamp was kept burning in it, rendering the apartment dusky and dim. The aunt, during her niece's absence, gave an explanation of these things by stating, that since the death of her parents Caroline had been unable to bear the light, through some nervous affection, or peculiarity of constitution. Stephen Otway was but half satisfied with this; yet when he looked on Miss Blake, he could not believe that aught of impropriety could attach to one like her. So modest seemed she, that when she met his eye, her own was ever cast on the ground. Still Otway could not help flattering himself with the hope that she liked him, as he felt that he loved her. Such were his feelings and meditations after he had spent a week at the chateau, and the time had come when he ought to take his leave. One evening at this period, when the aunt was for a short time absent, he ventured to express his surprise that one so fitted to adorn society should fly it. Miss Blake became evidently somewhat agitated, but only replied that the death of her parents had affected her much. Otway thought

such a heart must be a treasure, when enclosed in such a form, and in a few moments he had told her that he loved her, and entreated her to permit him to visit the chateau in future, and to hope that she would be his. Miss Blake showed great agitation. Averting her head, and trembling from head to foot, she faltered forth in broken accents, "Leave me, Mr Otway—leave me, for your peace and my own! I am an unhappy creature—a miserable, unhappy creature! Fly from me!"

The aunt's footstep was heard at this moment, and soon after her entrance, Caroline retired. She did not appear again that evening, and on the morrow Otway left the chateau, as he had previously announced his intention of doing. He did not go, however, until he had sent a note requesting leave to inquire for the ladies at a future time, which permission he received in reply from the aunt. Stephen left the chateau with his thoughts brooding over one point—the mystery that seemed to surround Miss Blake. For several days did he ruminate on this in his solitary lodging, until the time came when he had to appear at Boulogne, to settle the matter of the bet. But though he had gained his point on becoming acquainted with these ladies, one of them had become far too dear to him, to permit him to make them the subject of further foolery, and he had long resolved to pay the bet, and mislead his Boulogne friends as to the issue. He was pretty sure that none of them would know what had passed at the chateau. So it indeed proved. Stephen gave the appointed dinner; and as some other nine-days' wonder had taken up the attention of the loungers, the ladies of the chateau, to Stephen's great satisfaction, were forgot for the first bumper to the entertainer, in honour of the occasion.

Before Otway left Boulogne again for the country, letters were brought to him from England. One of these was from an especial intimate, who, after giving him news of British matters, went on thus:—"I only learnt two days since of your having come to Boulogne, from our friend Woodley. He tells me of a bet—you didn't use to bet, Otway—which you have taken up, about two ladies who live in a retired manner near Boulogne. I think too well of you, my dear Stephen, to believe you capable of annoying or insulting any lady or ladies, but if I am right in my supposition respecting these persons, I think you would feel especial regret at giving them a moment's pain. Caroline Blake, I think, is one of these ladies, and she is one of the best girls that ever breathed, as well as one of the most lovely and most sensitive. Her sensitiveness, indeed, approaches almost to disease. Her parents, and in truth her whole family, died some time back, through a pestilential fever, and this girl almost killed herself by watching over their successive death-beds. She was left the sole inheritor of an ancient name and a handsome fortune, but, unhappily, in her attendance on the last of her family who died, she also caught the seeds of the infection. She recovered her health, however, and all her loveliness, but alas— Otway read a few words farther, and the letter dropped from his grasp. He fell back in his chair, and struck his brow with his hand. "Dreadful!" he exclaimed to himself, "dreadful—irreparable loss! Poor Caroline! This then is thy unfortunate secret! And am I so poor a thing as shudder at and forsake thee for what thy very virtues have occasioned! Yet it is a horrid thing! We shall give no more of the young gentleman's exclamations, but content ourselves with saying that they continued long, so long, that an old crusty fellow, who slept that night below Otway's room in the inn at Boulogne, declared that he could get no rest till morning, for a stamping madman above."

The issue is what we have to do with. On the evening after receiving this letter, Stephen Otway presented himself at the gate of the chateau. He was admitted, and was received by Miss Blake with a blush, which soon passed away, and left her countenance calm and pale. The minds of both the young people seemed to be internally occupied on this evening, and the aunt had the discourse chiefly to herself; but she left the room for a moment, and Otway seized the occasion to resume the subject of his love. "The night is beautiful," replied Miss Blake; "will you walk with me a short way? I was prepared for your recurrence to this subject, and would speak with you. But not here—let me have the free air." She spoke this with a sort of assumed calmness. "Noble girl," thought Otway, "she could, but will not deceive me." The pair were soon ready for the walk. Stephen would have spoken as soon as they left the gate, but Caroline checked him. "Not yet—not yet," she said; "it may be the last time I shall see you! Do not shorten our meeting!" She leant on his arm at the same time, as if she were afraid of their separation being accelerated. They reached the spot, however, where the aunt's misfortune had happened, and Miss Blake stopped short. She struggled in vain for a few moments to speak, but at last compelled herself, by a strong exertion, into calmness. "Otway!" said she, "you say you love me; but you will soon fly from me. I am an unhappy creature, and cannot blame you. See here, Otway! mark this irreparable blemish!" As she spoke, she lifted his hand to her face, and placed his finger on one of her eyes. "It is cold, lifeless glass! Now, I know you cannot but feel dismay and horror at me," continued she, averting her head; "fly from me, fly, and seek a more happy mate." "Caroline," replied Otway, "I knew it, and I knew its cause! I love you still—more fondly than ever, since I have seen this new test of your nobleness of mind!"

These unexpected words so overcame the young lady

that she would have fallen to the earth, had not her lover's arm sustained her. His endearing words soon recalled her to consciousness. And now our story is ended, but we cannot help saying that Otway had never reason to repent of the marriage which followed soon after the events related. We have met his lady often in society, and should never have remarked the blemish in her visage, had she not pointed it out herself on one occasion. Glass eyes are not hereditary. Her children have the most beautiful peepers in the world.

THE COCKERILLS.

THE name of "John Cockerill," as was lately remarked in the present work, comes frequently into notice in connection with the locomotive machines on the Belgian railways, and is otherwise frequently heard of in all parts of the Netherlands, as well as in France and Prussia. This eminent individual, who may be styled the Bonaparte of continental mechanism, is an Englishman by birth and parentage. He was not precisely the founder of his own fortune, though it is owing to his own singular genius that he has attained the rank he now holds. The first important man of his family, was his father, William Cockerill, of whose biography—although once sketched before in the Journal—a few particulars may be here stated.

William Cockerill was, at the outset of his career, a working blacksmith in England, but not one of that order, necessarily the most numerous, to whom limited gifts and limited wishes assign the not unhonoured lot of passing the whole of life in daily toil. Endowed with an understanding which could calculate great results from certain combinations of moving powers, he was constantly bent upon important mechanical designs, which he longed to have the means and opportunity of putting into execution. He was a fine specimen of those intelligent artisans who have been the improvers of machinery in England, and ultimately its principal employing manufacturers—the class to which it may perhaps be said that we owe all the distinction we possess as a manufacturing nation. As often happens, nevertheless, William Cockerill met with little encouragement in the scene of his early labours, and towards the close of the last century, when he had attained middle life, and surrounded himself with a family, he migrated to the continent. The immediate reason for this step has been variously stated, and it is not of material consequence. Along with some other skilful mechanics, he proceeded, by the permission of our government, to St Petersburg, with the view of following out certain plans of the Empress Catherine, for establishing manufactures in her dominions. The death of the empress, and the accession of the madman Paul, ruined his prospects in Russia, and after a time he was fain to make his escape to Sweden. Here, under the protection of the British envoy, William Cockerill was employed as engineer on some public works, which no native Swedes could undertake. Engineering, however, did not suit his genius, and hearing of the manufactures of Liege and Verviers in Belgium, which were flourishing in spite of defective mechanism, he imagined that, if he were in either of these places, he should be certain to succeed as a constructor of machines. Luckily, from his economical habits, he possessed the means of removing from Sweden. He proceeded, first, as we are told, to Hamburg, where he disclosed the plan of his proposed operations to Mr Crawford, the English consul—at the same time stating, "that if he could obtain a small pension from the British government, he would return to England, not wishing to do any injury to his country, by introducing machinery into a foreign one." From what appears as to this overture, we cannot deem it creditable to Cockerill; but it is probable that we do not know enough of the facts to be entitled to speak decisively on the subject. Mr Crawford, it appears, approved of the proposal, and communicated it to the ministry; but no answer being returned at the end of six months, Cockerill proceeded to the Netherlands, there to seek fortune with his own head and hands.

The settlement of this mechanical genius in the province of Liege, was perhaps the most important event in the social history of Belgium. Not only did the country possess abundant supplies of coal, iron, and other elements of manufactures, but the people were generally animated by a keen anxiety to bring all these resources into active service. Of the Liegeois, in particular, who have been for centuries a busy people, it might be said that they required nothing, in order to compete with the English, but a knowledge of the fabrication of those mighty mechanical agents which had been planted in Lancashire and other parts of England. In such circumstances, the arrival of William Cockerill was exactly the most auspicious event that could have happened. He made offers to some extensive woollen manufacturers of Verviers, a town within the province of Liege, to construct for them new machines of his own invention for the carding and spinning of wool, and for other purposes connected with the production of cloth fabrics. The offers were accepted, and William Cockerill forthwith brought his family from England, and settled with them in Belgium. At this time his stock of cash was very slender, and those who ordered machines from him, had to supply him with the necessary metal; but Cockerill's sons

were growing up, and, with the assistance of their hands and his own, he speedily executed all orders, and founded a thriving establishment. The workshop of the Cockerills at Liege became a famous one, and the quantity of machines made for various manufactures was soon very considerable.

In the year 1813, the elder Cockerill retired from business, with a handsome fortune, leaving his two sons, James and John Cockerill, to follow out his trade. They did so for several succeeding years, and at length James also retired with a competency. John, who was now left alone, and who is said to possess the most enlarged mind of them all, erected, in 1815, the first manufactory for steam-engines which had been seen, on a large scale at least, in Belgium. His machines were soon distributed over the whole continent; but this was done far more extensively afterwards, when he erected new iron-works of vast size at the village of Seraing on the Maese, distant a few miles from the city of Liege. The magnitude of this establishment may be conceived from the fact that it keeps in continual motion sixteen steam-engines, of the collective force of nine hundred horse-power, and employs three thousand workmen. This establishment was organised by John Cockerill between the years 1821 and 1823. Yet, immense as are the operations here conducted, numberless as are the railway projects here perfected, and the steam-engines and machines of all sizes and descriptions here constructed, the establishment of Seraing is but one of the many great concerns which John Cockerill superintends, and of which he is wholly or in part proprietor. He still keeps in action the extensive foundry, originally possessed by his father in Liege; holds large shares in mining and colliery establishments; and possesses large cotton-spinning factories, as well as linen-manufactories, where these stuffs are put into all forms, weaving and printing included. He is also the proprietor of a paper manufactory. All these establishments he in a measure superintends in person, but, at the same time, it is especially remarked of him that he takes care to have the best of servants and overseers, sparing no expense in bringing such persons from all countries of Europe to his various works.

Such are the concerns of John Cockerill, and such are the sources of capital and material which lately enabled him to come forward, unassisted and unrivalled, to offer himself as the contracting party with the French government for the laying down of a railroad between Paris and Brussels; perhaps the most stupendous enterprise of the kind ever undertaken by an individual. This remarkable man, if we may trust to the accounts given of him, is not stimulated in his career of enterprise merely by a desire of personal emolument or aggrandisement, but seemingly regards himself, and acts, as one who has a great mission to execute, that, namely, of peopling the world with machines for the spreading of wealth and comfort among its inhabitants. He is said to use his wealth most generously on private occasions. To a young man whose father had once done a service to the elder Cockerill, the present inheritor of that name made on one occasion an advance of machinery to the value of 15,000 francs, in order to establish the youth in the line of business to which he had devoted himself. For this liberal aid he refused all security or guarantee, willing to risk any thing for the gratification simply of his filial gratitude.

To English readers who may not have seen, or even heard described, any of the large iron-works in their own country, the following account, given by a lively French writer of his visit to Mr Cockerill's establishment at Seraing, cannot fail to be acceptable:—

"I had the honour (he proceeds) to be conducted over the works by one of the principal managers, M. Mauninger, a young German of great merit, grave and laconic in speech, like his principal, but expressing himself with perfect clearness. He was kind enough not to suppose that I knew any thing of practical science, although he knew I was from Paris, where, in my capacity of journalist, I had sometimes been able to guide governments and assemblies. He led me back to the elements of things, and explained to me even matters that were clear, by which proceeding, in my opinion, he showed me a more real mark of esteem than if he had left me in my ignorance, that he might not appear to doubt my knowledge.

In the magnificent establishment at Seraing, one's attention, naturally, is most attracted and captivated by the workshops where the machines are finished. There are three principal ones, each of immense extent; the first for boilers or cauldrons, the second for locomotive-engines, and the third for steam-engines, properly so called.

In the boiler workshop, it is necessary to renounce the pleasure and utility of explanations on the spot. The sharp and piercing noise rends the ear; the hammer strikes incessantly on these vast hollow vessels of wrought iron, till their sides groan and resound like those of the Trojan horse. They are of all forms, not made so at the command of taste or fancy, but to suit the place and purpose for which they may be destined. If circumstances may require that it should be placed in a spot full of angles and recesses, the vessel is so shaped as to fit into these as if cast in a mould. Clay is not more pliable in the hands of the potter than these thick sheets of iron under the intelligent hammer of the workman of Seraing.

I saw the way in which they pierce thick iron-plates, and join two or more of them by means of large-headed rivet-nails, which run in a string along the joints of the

boiler, as thick as the gilded knobs on an antique easy-chair. The piercing is effected by a puncheon, fixed in some measure as in a printing-press. Two workmen are employed in the task; whilst one loosens the screw to which is fixed the sort of wimble that bores the hole, the other arranges the iron-plate below the screw at the exact spot where it is to be cut; then both of them take hold of a strap passed around a wheel that gives motion to the screw, and, with a forcible pull, insert the wimble, which immediately cuts out a small circle, like a coin, from the plate. When all the requisite holes are thus formed, and two plates are to be joined together, the nails, or pieces of metal to form the rivets, are heated red-hot in the forge, and placed in this condition in the holes, when two workmen commence to strike on both sides, and continue until the heads of the rivets are flattened and levelled.* No known force could start them from their places, when the operation is thus closed.

But that which astonished me most about Seraing, was the workshop for steam-engines, with its vast dependent compartments, where all the separate pieces are made, which enter into the construction of these machines. One's head turns round in the midst of so many thousand wheels, great, little, and least, which go at all rates and degrees of speed, and which move and intermove by means the most divers. Machines are there as multitudinous and varied as the ends they serve; there is one for every object, or, rather, it is the same object which has a thousand ministers; one saws, another splits, a third cuts, and a fourth planes; there is one to rough-hew the work, another to give it the exact shape, another to smooth, and another to polish it. The chisel, the lathe, the plane, the puncheon, the pincers, the hammer, all the instruments of the joiner, the turner, and the smith, operate upon the iron as upon the softest wood, and this without the agency of joiner, turner, or smith; the hand which moves them is a machine; that hand, always sure, always firm, delicate, and nimble, without inequality in its action, and dependent on no passing caprice, never growing dull, weary, or old! Some of these machines fly faster than the eye can follow; others seem not to stir at all, yet move with a pace regular though unappreciable. Come to-morrow, and, sluggish as it seems, it will have finished its task, or be commencing a new one. Certain machines are placed simply on the floor, like moveables that may be transposed at will; others are lodged in hollows more or less deep, or are sunk only half-way down, in order that they may have the exact height necessary to bring them within the compass of the hand. Large alleys between the different ranges of machines, and sufficient separating spaces between each, permit the workman to move about freely, and give him scope to relax his limbs without danger of being entangled by the wheels.

From the top of each main piece of apparatus, through the whole of the work-rooms, straps of leather fly in incessant motion, conducting the power to the parent machine, whence it is distributed to the others. One might say that the whole of these irresistible forces was distributed by ribbons.

It was here that I saw the boldest and most notable application that has ever been made, of a machine whose results are extremely nice and important. The use of this machine is to give such a polish to the inside of cylinders, that, while the piston fits and fills the cavity almost hermetically, it may also glide up and down with the least possible friction, so as doubly to economise the moving power, first, by allowing none of the steam to escape, and, secondly, by opposing the minimum of resistance. The machine mentioned receives the cylinder in a rough state, newly taken from the mould, and presenting those asperities, and that sort of grain, which make cast-iron appear like granite. Nothing can be more simple than the action of the machine: by a combination of wheels, there is pushed forward into the interior of the cylinder a revolving instrument, composed of four or five chisels, of the finest tempered steel, projecting from a strong centre, like the spokes of a wheel; every revolution of this instrument takes a circular chip from the cylinder, and by pushing it forward regularly, the whole interior is made as equal, smooth, and polished, as the blade of a sword. The cylinder which was polished thus at the time of our visit was of immense size, being for an engine of five hundred horse-power. The enormous receptacle destined for a piston twenty feet high, lay immovable upon a piece of mason-work, whilst the wheel, armed with its chisels, coursed its way internally, slicing the cylinder's sides, without noise, without visible motion, alone, without spectator or guide; for this machine has no need of superintendence; give it its task one day, and provided no portion of the moving power be withdrawn, it will end that task by the fixed time; it will deliver the work to you, like a living workman; and should you arrive beyond the period necessary for the completion of its labour, you will find it revolving in air, waiting for a new occupation.

Other machines have more or less need of surveil-

* This, as is well known, is a very noisy process: it may already, however, be considered among the things which are past, or are soon to be so. The ingenious Mr Fairbairn, of Manchester, has recently invented a piece of mechanism, which fixes the nails in perfect silence, with great expedition, infinitely greater certainty of making all tight, and at very much less expense, in consequence of the saving of human labour. It is not unworthy of remark, that this admirable invention for the saving of labour is one of those which might be enumerated as brought about in consequence of difficulties experienced in dealing with workmen.—Ed. C. J.

lance and aid. By the side of each stands a workman ready to advance or withdraw the article in course of manufacture, as occasion may require, and to remove from or replace upon the principal wheel the conducting strap, which continues to turn in air by the side of the wheel when not called into action; a disposable force, which a finger applies or takes away. Many of these workmen have their pipes in their mouths, and stand, with folded arms, eyeing with constant attention the progress of the machines, those dear companions of their toil, which relieve them from the weight of the menial labour, and leave to them, as it should be, the parts requiring reflection and intelligence. The men are very diligent, and look on with a keen watchful eye. Most of the work done here requires great delicacy and niceness of finish, and without extreme attention the machine would soon devour the piece which it received only to polish. Man's share in the labour is therefore at once more easy and more worthy of him; to the machine belong the great physical efforts, the indefatigable force, and the toil which would exhaust man; to man are left the conception, the responsibility of foresight, and the surmounting of difficulties. In quitting his work, the workman has those powers spared to him which he can employ usefully at home, in improving his dwelling, and in making repairs which would demand the hand of another, and would cost a part of his wages if he returned from work wearied and exhausted. What is it, besides, that raises in operatives the accursed desire of stimulating liquor, but the crushing weight of physical toil? He who comes from work lively and active, escapes more easily the temptations of the tavern; he loves his house better, from entering it less fatigued; he is the better husband, the better father; he has none of those evil dispositions which an operative brings to his home after exhausting, and more than exhausting, every muscular energy for a master, and which lead him, with something of a pardonable selfishness, to begrudge his family the ample share which they must necessarily have of the means which he has so painfully earned.

Besides that general improvement in the condition of the workman who is employed in connection with machines—an improvement not peculiar to the establishment of John Cockerill—there are other internal meliorations that are peculiar to these works, and solely due to his sagacity and genius, at once inventive, bold, and benevolent. I do not allude to the roominess of the workshops, to their cleanliness, and to the purity of the air, but to other benefits conferred on the operatives, and which were not called for, like these things, on the score of obvious necessity. I allude to such comforts as the robing or clothing-rooms, where the workmen hang up their out-of-door clothes when they come, and their working ones when they go away. Every workman has his place marked by a certain number, and a placard with his name. This is transplanting the habits of the business-office into the workshop. But what struck me most of all, was a large hall in the centre of the works, with a stove in the middle of it, neatly ornamented like most of the Belgian stoves; and upon this stove, morn, noon, and eve, there hangs a kettle filled with warm coffee. It is in this hall that all the workmen meet at certain hours of the day, in the intervals of labour, and take their coffee, men and foremen together, the latter holding a certain moral presidency, which the others willingly acknowledge. They here chat without noise or quarrelling, until the sound of the clock calls every man to his duties again."

FORMATION OF THE VOLCANO OF JORULLO.

ABOUT eighty years ago, the plains of Jorullo, in Mexico, were the scene of one of the most extraordinary and tremendous catastrophes that ever wrought a change upon the face of the globe. The southern portion of North America, from about the twenty-fourth degree of north latitude, across the isthmus of Panama, to the second degree of south latitude, is a tract of country which deserves to be entitled, *par excellence*, the region of volcanoes. One great chain of volcanic mountains, with but little interruption, extends over these twenty-six degrees of latitude; but if we include the bendings and curves which the chain or cordillera makes, we cannot estimate the space over which it passes at much less than two thousand miles in length. Many of the craters, which open like enormous cups on the summits of these mountains, remain in a state of constant activity, emitting vapour, and sometimes flames and ashes; others are subject to periodical convulsions; and a third class appear to be altogether exhausted, as no eruption of them has been known to take place. Several of the lofty peaks penetrate far into the region of perpetual congelation; and from their inaccessible summits, mantled with the snows of unnumbered ages, smoke is seen continually to issue—a striking spectacle, rendered still more remarkable by the volcanoes occasionally giving forth luminous exhalations. Not a few terrific and disastrous eruptions are on record, but none in its astounding effects is to be compared with that by which Jorullo was formed, and of which the celebrated Humboldt was the first to present an account to Europeans.

Until the year 1759, the present site of the volcano was a fertile plain, well cultivated, and producing abund-

dance of indigo and sugar. It appears to have been a place to which the inhabitants were particularly partial, for the fields were abundantly watered by artificial means, and a plantation was here formed, reckoned one of the largest and richest in the country. In the month of June of the above year, subterranean noises of the most appalling description were heard, accompanied by frequent earthquakes, which, for nearly sixty days, continued to terrify the inhabitants. A short period of tranquillity then intervened, and every thing appeared to be subsiding into its wonted tranquillity, when, on the night of the 28th September, the horrible subterranean peals were renewed, and a tract of ground four miles square swelled up like an enormous bladder to the height of five hundred feet. The affrighted Indians fled to a neighbouring mountain called Aguasarco, and those who witnessed the catastrophe informed Humboldt that flames were seen to issue forth for an extent of more than half a square league, that huge fragments of burning rocks were propelled upwards to an enormous height—whilst through the dense envelope of smoke and ashes, illumined by the lurid blaze of the volcano, the softened surface of the earth was seen to rise and fall like a tempestuous sea. Several rivers had their currents "turned away," and were precipitated into the fiery gulf, thereby invigorating the flames, probably from the water being decomposed by the intense heat. Thousands of small cones, varying from six to nine feet in height, issued forth from the softened and inflated surface of the ground. In the midst of these ovens, as the natives expressively called them, six large masses sprang up from the bosom of the burning chasm, into an elevation of from thirteen to seventeen hundred feet each. The highest of these hills is the great volcano of Jorullo, which burns continually, and has thrown up upon one side an immense quantity of ashes and scorificious lava. These great eruptions of the central volcano continued without intermission till the month of February 1760, but in the following years they became gradually less frequent. Great numbers of these small cones or ovens still continue to pour forth steam, and emit a subterranean noise, which appears to announce the proximity of a fluid in ebullition. According to the testimony of the Indians who were present at the catastrophe, the heat of these volcanic ovens has suffered a gradual diminution, but Humboldt still found their temperature near that of boiling water. The surrounding atmosphere, too, was heated to such a degree, that, at a great distance from the surface, and in the shade, the thermometer rose as high as 109 degrees of Fahrenheit. "This fact," our traveller remarks, "appears to prove that there is no exaggeration in the accounts of several old Indians, who affirm, that for many years after the eruption, the plains of Jorullo, even at a great distance from the scene of the explosion, were uninhabitable from the excessive heat which prevailed in them." The ashes of this eruption were scattered to the distance of 160 miles. "The traveller is still shown, near the Cerro de Santa Ines, the rivers of Custamba and San Pedro, of which the limpid waters formerly irrigated the sugar plantation of Don André Pimentel. These streams disappeared in the night of the 29th of September 1759; but at a distance of 6560 feet farther west, in the tract which was the theatre of the convulsion, two rivers are now seen bursting through the argillaceous vault of the hornitos (ovens), of the appearance of mineral waters, in which the thermometer rises to 126 degrees Fahrenheit." The Indians continue to call these streams San Pedro, and Custamba, because in several parts of the volcanic ground great masses of water are heard to run in a direction from east to west. We have here, then, a double phenomenon, the formation of the volcano itself, and that of a subterranean river; such, however, have been found in other regions of the globe.

On this catastrophe Humboldt justly remarks, that an event "by which so considerable a tract of country entirely changed its appearance, is perhaps one of the most remarkable physical revolutions in the annals of our globe. Geology indicates parts of the ocean where, within the last two thousand years, several small volcanic islands have been formed; but it gives no other example of the formation from the centre of a thousand burning cones, of a mountain of scorificious and ashes 1695 feet above the level of the adjoining plain, upwards of thirty-six leagues from the sea, and forty-two leagues from every other active volcano." It is remarkable that this new volcano was formed in a direction parallel with the line, running east and west, in which all the elevated summits of the old volcanoes are found. And in connection with this curious fact, it is mentioned, that from the lake of Cuicero in the same quarter of Mexico, which is impregnated with muriate of soda (common salt), and exhales sulphuretted hydrogen, to the city of Valladolid, an extent of forty square leagues, there are a great number of hot wells. From these indications of volcanic action in this particular region, Humboldt infers, that there probably exists here, at a great depth in the heart of the earth, a chasm, in a direction from east to west, and for a length of 137 leagues, along which

the volcanic fire, bursting through the interior crust of the porphyritic rocks, has at different epochs made its appearance. The theory is plausible enough, but as yet the subject of volcanoes is involved in much obscurity.

POKINGS IN ETYMOLOGY.

SECOND ARTICLE.

To the examples we have already given of words whose origin appears so obscure that any attempt to trace it will be viewed with scepticism, may be added that of *dust*. The results of Macadamization, as developed in a windy day after a continuance of scorching weather, naturally lead us to consider the origin of the dense cloud produced, and hence to discover the source of its appellation. The Latin verb *aduro* indicates the intense action of the heat in comminuting the particles of the surface so as to render them easily and copiously borne on the wings of the wind. Each particle or mass of particles is manifestly *adustum*, or "scorched," from which participle of *aduro* the word *dust* may be supposed to have proceeded. From the primitive of this verb, namely, *uro*, "to burn," is also plainly derived the *urn* that contained the ashes of the dead.

The verb *atone* has an elegant and truly English parentage, implying that the offending and offended parties are now at one, or reconciled.

The endearing epithet *darling* is of that interesting class of diminutives terminating in *ling*, such as *nursling*, *foundling*, &c., being in fact merely a corruption of *dearling*, or "little dear."

The expressive word *atom*, though appropriated to the ultimate particles or elements into which matter is supposed resolvable, is not itself an elementary word, but beautifully portrays the theory involved in that supposition, namely, that there is an extreme limit beyond which there is no possibility of further division, from the Greek *a*, the privative particle, and *τομή* (*tomē*), "section."

The verb to *curtail*, of French extraction, is remarkably expressive, being an inverted contraction of *tailleur court*, "to cut short."

In the word *journal*, the legitimate offspring of the Latin *dies*, "a day," we have another striking instance of all family resemblance disappearing, since these words have not one letter in common. From *dies* proceeds *diurnus*, "daily," from which, by softening the sound of *di* before *u*, come the French words *jour*, "day," and *journal*. An example of this softening we have in the vulgar pronunciation of *duty* as *footy*. From the same source proceed *journey* (or *journée* in French), which formerly implied the amount of travelling, or indeed of any other labour performed in the course of one day; whence also *journeyman*. Talking of *travel*, and of labour (in old English *travail*), it is obvious they spring from the same French parent *travailler*, thus conjuring up a striking contrast between the pain of ancient, and the pleasure of modern, locomotion.

Who would ever imagine any affinity of descent between the words *torch*, and *torment*, *torture*? Yet it is undeniable that they flow from the Latin *torqueo*, *torci*, *tortum*, to *twist*—the former word indicating the convoluted form of the ancient flambeau, and the two latter having a graphic reference to the mental or bodily writhings of their victim.

Few words can boast of a more graphic composition than *effrontery*, from *ex*, "out of," and *frons*, "the forehead." To raise the forehead, and present it fair and open to observation, is the natural language of the feeling of confidence. Any one who, when accused, or under suspicion, can do this, and stand unabashed and unblushing, must either be really innocent, or gifted with a vast amount of hypocrisy, self-command, and assurance. Perhaps, amongst our forefathers, the act might be rendered more expressive if the hair, usually worn over the forehead, were set aside or parted, so as to bring that rarely seen feature into sudden and conspicuous view. It would then be natural to regard the forehead as speaking for the accused—as if an actual pleading proceeded *ex fronte*, out of the brow. Such might be the process of ideas which gave rise to the word *effrontery*.

Often can an elegant illustration of the national character be elicited from the modification of structure which a foreign word experiences on its adoption into the language. It may be thought extravagant to view the expansion of the Latin *cor*, "the heart," into the Spanish *corazon*, as referable to the greatness of heart, and, on the other hand, the contraction of *comedere*, "to eat," into *comer*, as referable to the moderation in eating of the Spaniards; but, even allowing this instance to be overstrained, the principle itself is unquestionable.

The familiar word *ditto*, by which much repetition is saved to many a worthy book-keeper, remains an imperishable testimony to the glory of modern Italy in having taken the lead in the revival of commerce amidst the surrounding barbarism of feudal ascendancy. It is nothing more or less than the Italian for "said," but has now acquired a technical appropriation to mercantile language, which is indebted to the same origin for many other words of equal convenience.

That caricature of humanity, yelped a monkey, can

boast of a dignified ancestry to its name, which is manifestly an abbreviation of *monnikin*, or *mannikin*, "a little man." It is to be hoped that no rational homunculus, or miniature of manhood, will grudge it this aspiring cognomen.

The verb *to revolt*, compounded of *re*, "again," and *volvo*, "to turn," is beautifully illustrated by that passage of Scripture which recommends pearls not to be thrown before swine, "lest they turn again and rend you."

Though the origin of *husband* must be known to many, yet to some of our readers it may perhaps be both interesting and instructive to know that the domestic chief is thus dubbed from his being, or at least from his obligation to be, the *band* that unites the *house* together—the bond of union among the family. How desirable that all *husbands* were *house-bands* in reality as well as in name!

The peculiar characteristic of that prince of the finny tribe, the *salmon*, is well indicated by the etymology of its name, which undoubtedly proceeds from the Latin verb *salio*, "to leap," and stupendous are the leaps which this fish occasionally performs.

The word *person* has a singular origin, having, in its Latin form *persona*, implied at first merely the mask invariably worn by the actors of antiquity, through (*per*) which their voices sounded (*sonare*). In process of time the word extended its meaning from a thing to speak through, or mask, to the performer that wore it, and, by an easy transition, since "all the world's a stage," came finally to be applied to "all the men and women" who "are but actors" thereon.

One is tempted to trace the origin of *insult*, coming, as it obviously does, from the Latin verb *insulto*, "to jump upon," to the first recorded case of insult in Roman history, where Remus, to show his contempt for the limited boundaries of infant Rome, leaped over them, thus giving mortal offence to his brother Romulus. At this day, when an Irishman has exhausted all his expedients in the way of picking a quarrel, he spreads his upper garment on the street in the hope of some *insult*, and therefore *insulting*, movement thereon by some other amateur of the shillelagh.

The word *surgeon* has deviated remarkably from its parent orthography, namely, the Greek *χειρουργος* (*chei-rourgos*), from *cheir*, "the hand," and *ergon*, "work." It came to us from the French form *chirurgien*, which word, from the peculiar tendency to abbreviation so remarkable in our language, has at last subsided into *surgeon*, leaving the single letter *s* as the representative of *cheir*.

Assiduous has an extraction strikingly descriptive of its meaning, being from *ad*, "to," and *sedeo*, "to sit," and consequently implying the fixity of purpose which urges an individual to sit to his undertaking.

The verb *to prevent* is a striking illustration of the widely divergent and even apparently contrary meanings which the same word may exhibit, when not viewed in reference to its etymology. *To prevent* is the Latin *prevenio*, and implies literally the action of "coming before." Keeping this origin in view, we shall easily explain the seeming contradiction which is involved in the following and similar expressions which are now obsolete in the language. Thus, in one of the beautiful prayers of the English church, we implore the Lord "to prevent us in our humble supplications." And in the 119th Psalm, at verses 147 and 148, we read, "I prevented the dawning of the morning, and cried: I hoped in thy word. Mine eyes prevent the night-watches, that I might meditate in thy word."

The word *ink* presents, in its formation, not only a historical memento of the original inventors and almost sole users of that fluid, but also another vivid example of the abbreviating power of our language. Its Italian cognomen *inchiostro* (pronounced *inkyostro*), means literally in a *cloister*, and recalls to memory the deep obligations which literature owes to those ecclesiastical retreats in which its vestal fire was so long piously guarded.

The words *edify* and *edifice*, except to the Latin scholar, betray no marks, beyond the mere orthography, of a common origin. The primitives from which they both issue, are *ediles* and *facio*, denoting the *making of a house*. The comparison of mental or moral improvement to that process, which commences by laying a secure foundation, and then rearing an upright and durable structure, is, though trite and obvious, of surpassing beauty. There must, nevertheless, be many who use the words daily without knowing their literal meaning, and who would be *edified* to a certain extent if informed that these terms imply a building up or fortification of their minds against evil and for good. A quaint combination of the literal and allegorical meanings may be seen on the doorway of a paragonage near Edinburgh, "Edificamus ut edificemur." "We [the heritors or land-owners of the parish, of course] *edify* (build the manse) that we may be *edified*."

The seemingly coarse and homely name of *kickshave*, which is recognised by Johnson, and defined by him "a fantastical dish of meat," expresses, in its French original, a mere "*something*." Its plural form *kickshaves*, which is the more legitimate form, is but an Anglicisation of *quelques choses* (some things), which, from the allowable silence of the *s* in this word, sounds, in English orthography, *keek shaws*. Johnson's definition of the word agrees admirably with its import in that Scottish song in honour of kail brose, where, speaking of our ancient banquets, it is recorded that

"Nae kickshaws, nor puddings, nor tairts were seen there,
But a cog o' gude brose was the favourite fare."

Speaking of *brose*, it may not be generally known that this "favourite fare" of our ancestors derives its name from a more learned source than might be expected. It is really the Greek word *βρωσις* (*brosia*), "food" (the rejected syllable is being merely the postfix of gender), which again is from the verb *βρωσκειν* (*broskein*), "to eat." We may remark, by the way, that this verb is still to be recognised in the English one "to *browse*."

DRINKING USAGES OF ENGLAND.

A NEW and greatly extended edition of Mr Dunlop's work on the Drinking Usages of Great Britain and Ireland,* has just reached us; and the subject being one of great importance as respects the moral and intellectual advancement of the people, we propose bringing it under the notice of our readers.

Mr Dunlop is well known as the president of the Temperance Union of Scotland, and has rendered himself conspicuous by his zealous yet discreet advocacy of a general abstinence from intoxicating liquors. Enthusiastic in the cause he has espoused, he has taken the trouble to collect into the volume now before us, a large array of facts respecting the drinking usages prevalent in all classes of society, and among every order of tradesmen; his object, as it may be presumed, being to shame men out of their intemperate and frequently very silly customs. A few years ago, when the idea of abstinence from all kinds of intoxicating fluids was first announced, it was necessary to explain, by way of preliminary to assaults upon drinking usages, that there were really no nourishing properties in alcoholic beverages—or at least that any slight benefit they conferred, was united to so much that was positively vicious, that they might with great propriety be altogether set aside and rejected. This important truth is now so generally recognised, that few have the temerity to dispute it. The question of abstinence from intoxicating drinks, has therefore, by a sort of tacit consent, been narrowed to the point of mere usage and habit. Wines, spirits, porter, ales—all less or more alcoholic—are drunk "because it is the custom of the country," "because it is the practice, and people would think it strange if you did not offer them the liquor usually given on such occasions," or "because habit has confirmed a love and inclination for them," or some other equally sufficient reason. It is against these sham arguments and dangerous practices that our author has directed his ridicule and censure. The drinking usages of the Scotch, English, and Irish, are each treated in turn, and with no small degree of quiet humour. We pass over the usages of the Scotch working-classes, and also the usages connected with baptisms, marriages, funerals, fairs, markets, &c., as we alluded to these on a former occasion. In one town, we suppose Greenock, he estimates that £26,830 are spent annually by mechanics in *seven* drinking usages, such as apprentice entries, fines, and bets, pay-night customs, launch bowls, and so forth. Only a very slight reform, as it appears, has taken place with respect to usages of this nature, notwithstanding the establishment of Mechanics' Institutions, and an increasing taste for reading; nevertheless, the case is not utterly hopeless, and we feel assured that firmness on the part of a few steady and intelligent workmen in their respective professions, aided by the countenance of masters to the cause of temperance, would speedily work a surprising change for the better. Mr Dunlop calculates that the sums spent weekly by mechanics alone on intoxicating liquors, chiefly whisky, would soon furnish in every town in the kingdom commodious lecturing-halls, libraries, public walks, and many other means of elegant and necessary recreation, which at present do not exist except on the most limited scale. If it be true, as has been frequently stated, that upwards of half a million of pounds sterling are spent annually in Glasgow in vicious liquors, we cannot doubt that if this single evil were extirpated, the whole aspect and condition of society would be altered.

The drinking usages among the handicraftsmen and tradesmen of England are fully more virulent, and we fear will be more difficult to unsettle, than those of their brethren in Scotland. Some of them are as ludicrous as they are mischievous.

Shipwrights.—The apprentice footing amounts in general to two guineas. The penalty for non-payment is flogging with a handsw from time to time; and this and other mal-treatment is pursued till the usage money is paid. In some building yards, it is only about a dozen of the oldest apprentices that enjoy this treat: it frequently is the occasion of two or three days' idleness and drunkenness. At launching there is from five to ten pounds given by the owners of the new ship. Besides this, in some cases the apprentices are in use to wait upon and receive drink-money from dealers who furnish articles for the vessel; such as the block-maker, painter, plumber, glazier, joiner, and others. The whole is expended in a supper and drink by the older apprentices, each bringing his sweetheart, or a friend. Disgraceful scenes of drunkenness often occur in consequence of this usage, which frequently end in jail or bridewell. Such methods of amusement and recreation must further have a very deteriorating effect on the female friends of this class of workmen.

A shipwright's apprentice is expected to pay 2s. 6d. for drink-money at his first caulking. The penalties

for non-payment of usage money are various: sometimes the jacket is nailed to the board with large nails, or the clothes or hat mopped with tar. When the foreman, or others connected with the building-yard, keep a public-house, it has frequently been stated to me by operatives that it is ruinous to the men, and contrary to the interests of the master. "In the eyes of such a foreman," say they, "he who drinks most is the best man."

Foundries.—Among engineers the apprentice footing ranges from £1 to £2, 2s. At expiration, or "loosing," there is £3 to £4 for a supper and drink to the men; the employer sometimes gives towards this also. To the apprentice footing each man adds 6d., which makes the usage comprehend the whole of the parties, and thus ramifies its power. A journeyman's footing is 6s., to which the other men add 6d. a-piece. This practice is sometimes called "backing." Shifting vice or lathe, moving to a better situation in the work, draws 1s. for drink-money; the others "back" with 3d. each. Coming on Monday with dirty shirt, or unshaved, incurs 1s., backed by the rest at 3d. each. Marriage is 10s. 6d., backed by the rest with 6d. each. A birth 1s. to 1s. 6d., backed with 3d. each. If not of the trade club (in some places), a man pays 10s. for drink, in order to be free of the particular shop. At Liverpool it is usual to fine workmen in the sum of 1s. for drink, who have been, for the first time, a pleasure sail round the black rock in the Mersey.

With some pleasing exceptions, wages are generally paid in this trade on Saturday night, in a public-house; or the men are clubbed together (it is sometimes called "linked"), and sent to obtain change where they may; which, of course, leads direct to the public-house. If the day of a man's birth can be discovered, he will be pestered continually to give drink. On national saints' days in England, the following drink regulations have place in this and other trades:—On St George's day each Englishman pays 1s., and each Scotch, Irish, and Welshman, 6d. On St Andrew's day, the Scotch pay double; on St Patrick's day, the Irish; and the Welsh on St David's. The employer gives what is denominated a way-goose at lighting of candles; the men "back" this gift, and hold a supper. Brass-money is claimed at Whitsuntide from the brass merchant, and at New Year's day from the iron, coal, timber, and tin merchants.

The usages among whitesmiths, blacksmiths, chain-cable manufacturers, and carriers, are equally ridiculous. The following are customary among joiners and carpenters:—The apprentice footing is £1 to 30s., backed with 6d. each; journeyman's footing, 2s. 6d. to 4s., backed with 6d. or 1s. each. In some cases the "loosing" is signalled with drink. On the building of a house, the claim upon the owner for "rearing money" varies from £1 to £5. All the men who have been employed previous to putting on the roof, enjoy this festive occasion, but not those whose work comes afterwards, such as plasterers. Each man backs the rearing pot with 1s. The men next claim certain sums, varying according to local custom, from the lath-render who has furnished for the house, and from the stone-mason, brick-merchant, and lime-merchant. These last sums are obtained in the manner above stated, denominated in some places "kicking," and they are drunk the day after the rearing pot has been disposed of, in order that the parties may enjoy "a hair of the dog that bit them." Those who happen to spoil work, called in cant language "buttoning," will be informed upon by the others, unless they bribe with drink (mug the witnesses). On obtaining a new bench or station in the work, 4s. for drink must be paid; this is given to benches exclusively. Unless an apprentice pays something for drink at making his first window sash, or other difficult operation, he will not be assisted in his work, and no explanations regarding business will be given to him. In the same way drink is demanded in the wheel-wright trade, at the first fastening of spokes in the centre of a wheel. If fines be delayed to be paid, they will be added to according to the period of delay. At marriage, and at birth of a child, 5s. to 10s. is demanded for drink, with backing from each. Wages are generally, though not universally, paid on Saturday night; many do not receive their own net wages, but are "linked with others." Sometimes, according to one informant, ten to twenty men are clubbed together, with bank-notes to obtain change where they may: nothing can exceed the tyranny and folly of masters in this respect. On non-compliance with drink fines, or footings, the clothes or tools of the individual will be pawned (put up the spout); he will be "sent to Coventry," and otherwise maltreated. New tools and clothes must be "wettet."

Besides what is above stated in building houses, there are also, in general business, Christmas-boxes demanded from the nail-maker, timber-merchant, and ironmonger. National saints' days are the period of a drinking bout, according to rule. If any man inform on another to the master (called "sucking" the master), the case is brought before the trade club and decided; if any penalty ensue, it is generally a drink fine. If an apprentice neglects to watch the fire properly, he incurs a drink fine. When a man is made foreman, he must pay 5s. for drink. One leaving a candle in the workshop, without asking some other to take charge of it, incurs a drink fine of 1s. In many cases, the smaller fines are not drunk till they amount to £1, when a "speer" takes place. Dirty shirt and long beard on Monday, incur drink fines. One informant had not only to pay fines, but was struck and

* London, Houston and Steneman, 1 vol. 1839.

maltreated for not partaking of the liquor. If fines and footings are not paid, tools are hid; particularly the special tools required at the time. This is called 'making an old woman of one.' If the recusant acquaints the master, the fine is doubled. There is an occasional way-goose, but it is not universal. The same informant mentions, that if fines and footings were not paid, after all other schemes fail, a strike would ensue, and the employer be forced to dismiss the operative. As we before had occasion to state, with regard to the regulations of various trades in Ireland and Scotland, there is here a tribunal for the purpose of trying all questions which infer drink fines. A man is said, under these circumstances, to be tried under the strong beer act. Sometimes the court is formed of men in the same workshop, at other times of persons selected from various shops. One informant has seen a man fined in four gallons of ale, and a foreman in eight gallons, on such an occasion."

The author next describes the usages among coopers, sawyers, tailors, coachmakers, watchmakers, and some other classes of artisans. Among tailors, "the penalties for non-compliance with drinking usage are various. One is being 'sent to Coventry,' sometimes called being 'made a dog.' This is a most uncomfortable state for a tailor to be in. All manner of jeering and ill treatment is considered justifiable, nay, a matter of duty to the trade, in this case. The culprit has broken a law of the business; he has aimed a blow at the social indulgences of all the tailors in the queen's dominions. It is therefore obligatory on every man to resent this as an injury done to his individual self. No maltreatment is too severe for such a case. In the language of the shop, 'waste meat and bones are thrown to dogs.' This is such a pitiable state of debasement and excommunication from every good office, that, besides paying up all fines and footings, there is sometimes imposed as a special amercement, before the convict can be reinstated into 'pitcher law.' And, seriously speaking, it is perhaps difficult in modern times to point out a more grievous state of persecution than a man is hereby subjected to. The sleeve lining of a 'dog' is twisted and sewed up; triangular holes are cut in the rim of the hat; the man's clothes are sewed up in different forms, to look like a bundle of rags; candles are put out quickly at dismissal of the shop, and he cannot put himself to rights till he arrive at home. The seams of clothes and pockets are ripped open—an informant has known money thus lost—clothes are secreted and 'put up the spout' (pawnd). The master, in all these cases, can give no relief. The unfortunate non-conformist, wearied out with a series of insult and injury, must at length yield to the influence of drinking usage; the young are led to consider drinking as a necessary business and duty of life, and are soon as inexorable as their neighbours in exaction to support the system; while the wretched men whom this wretched tyranny has compelled into habits of inebriation, find it impossible to retrieve their character, or alter their conduct, amid the unconquerable craving of a vitiated appetite, seconded by the invincible pressure of perpetual and systematic compulsion."

The custom among printers of holding "chapels," which has been often described, still exists in most parts of England, greatly to the demoralisation of the trade and the injury of the master. Mr Dunlop alludes to the chapel usages of printers, but appears to be unacquainted with the heights to which they are sometimes carried. We have been informed by a respectable London printer that he dares not buy ink to be used in his establishment, unless his workmen are on good terms with the ink-manufacturer. For every new cargo of ink, the men expect a present of money from the maker, which is spent in drink. If the maker do not give enough, or should refuse to give any thing, complaints are immediately raised that there is sand in the ink, and that it will not work. In other words, the property of the master is sacrificed in revenge for the ink-maker's refusal to accommodate himself to the usages of the trade. We are not aware that this odious practice prevails generally among the printing trade in England, but that it exists to a certain extent, is placed beyond a doubt by what has been mentioned to us, as above.

A glance at the widely-spread drinking usages of England, of which the foregoing are a mere scantling, cannot fail to impress the conviction that all the ordinary means of social improvement now in operation, must prove next to unavailing, unless these usages be in the first place attacked, resisted, and utterly extirpated. It is a positive disgrace to the section of temperate and intelligent individuals who are to be found in every branch of trade, that they should thus submit to the tyranny imposed upon them by their fellow-workmen—a tyranny more iniquitous than that ever attempted to be established by any civil power on the face of the earth.

We shall return to this subject.

THE ALPINE HORN.

Amongst the lofty mountains and elevated mountain valleys of Switzerland, the Alpine horn has another use besides that of sounding the far-famed Ranz des Vaches, or Cow Song, and this is of a very solemn and impressive nature. When the sun has set in the valley, and only the snowy summits of the mountains gleam with golden light, the herdsman who dwells upon the highest habitable spot, takes his horn and pronounces audibly and loudly through it as through a speaking-trumpet, "Praise the

Lord God!" As soon as this sound is heard by the neighbouring huntsmen, they issue from their huts, take their Alpine horns, and repeat the same words. This frequently lasts a quarter of an hour, and the name of the Creator resounds from all the mountains and rocky cliffs around. Silence at length settles over the scene. All the huntsmen kneel and pray with uncovered heads. In the meanwhile, it has become quite dark. "Good night!" calls the highest herdsman again through his horn. "Good night," again resounds from all the mountains, the horns of the huntsmen, and the rocky cliffs. The mountaineers then retire to their dwellings, and to rest.

FIRST GRIEF.

[BY JAMES HEDDERWICK.]

They tell me, first and early love
Outlives all after-dreams;
But the memory of a first great grief
To me more lasting seems;
The grief that marks our dawning youth
To memory ever clings,
And o'er the path of future years
A lengthen'd shadow flings.
Oh, oft my mind recalls the hour,
When to my father's home
Death came—an uninvited guest—
From his dwelling in the tomb!
I had not seen his face before—
I shudder'd at the sight;
And I shudder still to think upon
The anguish of that night!
A youthful brow and ruddy cheek
Became all cold and wan—
An eye grew dim in which the light
Of radiant fancy shone.
Cold was the cheek, and cold the brow—
The eye was fix'd and dim;
And one there mourn'd a brother dead,
Who would have died for him!
I know not if 'twas summer then,
I know not if 'twas spring,
But if the birds sang on the trees,
I did not hear them sing;
If flowers came forth to deck the earth,
Their bloom I did not see—
I looked upon one wither'd flower,
And none else bloom'd for me!
A sad and silent time it was
Within that house of woe,
All eyes were dull and overcast,
And every voice was low!—
And from each cheek at intervals
The blood appear'd to start,
As if recall'd in sudden haste,
To aid the sinking heart!
Softly we trode, as if afraid
To mar the sleeper's sleep,
And stole last looks of his pale face,
For memory to keep!
With him the agony was o'er,
And now the pain was ours,
As thoughts of his sweet childhood rose
Like odour from dead flowers!
And when at last he was borne afar
From the world's weary strife,
How oft in thought did we again
Live o'er his little life!
His every look—his every word—
His very voice's tone—
Came back to us like things whose worth
Is only prized when gone!
The grief has pass'd with years away,
And joy has been my lot;
But the one is oft remembered,
And the other soon forgot.
The gayest hours trip lightest by,
And leave the faintest trace;
But the deep, deep track that sorrow wears,
No time can e'er efface!

—Scotman newspaper.

INCLEDON AND THE LOIN OF PORK.

In the course of travelling together, Mr Incledon and my husband differed in few things more than in their tastes in eating. Mr Mathews liked the simplest fare; Mr Incledon was always in search of an appetite, and therefore was very fastidious about the wherewithal to tempt it. On one occasion, at some town where they stopped only to change horses, Incledon, according to a habit in which he indulged, sought out the larder, and seeing a small undressed loin of pork displayed through a glass window with other delicacies, he fell deeply in love with it, and immediately applied coaxingly to the landlord (a portly independent sort of person, with his hands in his waistcoat pockets), to be allowed to purchase it to carry onwards. Mine host abruptly refused; "he could not sell it—he should want it for his dinner customers," &c.; but in proportion as the landlord seemed unrelenting, Incledon's anxiety became stronger. He asked what the joint would be charged to his dinner customers, and then held out the sum with an addition; but the sulky landlord was inexorable. The epicure increased his temptation, until at last he offered double the worth of it; and Mr Mathews, ashamed of the childish behaviour of his *chum*, left him with the landlord to settle the important matter as they might, and walked on, telling the servant to wait for Mr Incledon with the carriage, and overtake him on the road. In a short time he saw it approaching with Mr Incledon, who, after my husband had seated himself, and the horses were proceeding, took out a handkerchief from a pocket of the carriage with

some appearance of mystery, and deliberately placing it upon his knees with evident satisfaction, opened it, and revealed the coveted little loin of pork! "Well," said his friend coldly, "what, you prevailed at last; how did you manage to coax that surly fellow out of it?" Incledon twinkled his eyes: "Charles Mathews," said he, with something of solemnity, "I did not prevail. My dear boy, the man was a brute. I offered him all the silver in my pocket. I had set my heart upon the thing, my dear Charles Mathews. I couldn't have ate any thing else, my dear boy; so what do you think I did? Don't be angry, Charles (and here he looked like a child who knew he had done wrong, and dreaded the punishment for his fault), don't be angry; a man like yourself can have no idea what I feel, who want little delicacies to keep up my stamina. My dear Charles, the man was unfeeling." In this way did Incledon prepare his companion for the truth, and deprecate his wrath. The fact was, he had watched the landlord's absence, entered the larder unperceived, and bore away the tempting prize, leaving the already proffered double its value in its place.
—Life of Charles Mathews, by his widow.

PROGRESS OF NATIONS IN AMERICA.

In the newer American states it is customary to celebrate the day on which the settlement of the district or town, or whatever it may be, took place. The fiftieth anniversary of the settlement of Cincinnati was lately celebrated, this being now a town of 50,000 inhabitants, exporting annually seven or eight millions of dollars' worth of agricultural produce, and having often forty or fifty steam-vessels lying at one time at the wharves. The whole territory was purchased at the beginning for *forty-nine dollars*. One old man attended the celebration, who had himself made the roof of the first house *singled in the place*. A Mr Tappan, whose age is about sixty, and who was lately chosen one of the Federal Senators for the state of Ohio, resides in a large town called Ravenna, where he was the *first man to cut down a tree*. This state, in forty years, has acquired a population of a million. Florida is now about to apply for admission as a state into the Union. For this she must show a population of 50,000, which it is expected she will be able to do next year. Next year, also, two more territories, called Iowa and Wisconsin, which began to be heard of in America last year, and are as yet totally unknown in Britain, are expected to be in a similar condition, and to make the same application. The United States will then be twenty-nine in number, instead of thirteen, as in 1775; and the stars on the national banner must be numbered accordingly. An additional illustration of the mushroom progress of all things in America, is obtained from the fact that the steamers on the western waters of the States have increased from 234 to 600 in the short space of five years. The States have now 800 steamers in all, of 155,000 aggregate tonnage, the largest being a vessel of 860 tons (!) which runs between New York and Natchez.
—Collected from a letter in the *Athenaeum*, dated "Boston, January 16, 1839.

RATIONALE OF PROPERTY.

Why, it has been asked, should man be allowed to appropriate more than is necessary for his support? We ask, what support is meant? The momentary satisfying of his hunger by shooting a deer or plucking a fruit? Is he allowed to shoot several deer and dry the meat for the winter? Is he not allowed to cultivate a tree which shall give him fruit for certainty, so that he may not be exposed again to hunger, the pain of which he knows already? May he not cultivate a patch of land to have corn for his children? If he has slain a buck to satisfy his hunger, is he allowed to appropriate the skin to himself and call it his own? If the industrious fisherman sails to the bank of Newfoundland to appropriate to himself the unappropriated codfish, has he no right to catch as many as he thinks he and his children shall want for the whole year? But they cannot live upon codfish alone: may he not take so many codfish as to exchange part of them for other food, for clothing? Does supporting his family not include the sending of his children to school? May he not catch some more to save the money he may obtain for it, that, should he perish at sea, his wife and children may not suffer from want or become a burden to others? Where does the meaning of support stop? Why should it apply to the satisfying of physical wants only? There are wants far higher than these, the wants of civilisation. We want accumulated property; without it, no ease; without ease, no leisure; without leisure, no earnest and persevering pursuit of knowledge, no high degree of national civilisation. Aristotle already lays it down as the basis of high civilisation to be free and have leisure.—*Lieber's Manual of Political Ethics.*

THE TURNSPIT.

Louis XI. of France once took it into his head to visit the kitchen, and see what was going forward. He there found a little fellow about fourteen years of age, busily engaged in turning the spit, with roast meat. The youth was handsomely formed, and of so engaging an appearance, that the king thought him entitled to some better office than the humble one which he then filled. Accosting him, Louis asked whence he came, who he was, and what he earned by his occupation. The turnspit did not know the king, and replied to his interrogatory without the least embarrassment, "I am from Berny, my name is Stephen, and I earn as much as the king." "What then does the king earn?" rejoined Louis. "His expenses," replied Stephen, "and I mine." By this bold and ingenious answer he won the good graces of the monarch, who afterwards promoted him to the situation of groom of the chamber.

EDINBURGH: Printed and Published by W. and R. CHAMBERS, 19, Waterloo Place—Agents, W. S. ORR, London; G. YOUNG, Dublin; J. MACLEOD, Glasgow; and sold by all booksellers.

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